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MEDICAL EDUCATION: PART II

TRAINING INTERNAL MEDICINE RESIDENTS TO ACT ON SOCIAL DETERMINANTS OF HEALTH USING SOCIAL DETERMINANTS OF HEALTH FAST FACTS

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Mounting evidence has demonstrated that social determinants of health (SDoH)—such as housing, education, income, neighborhood safety, food availability and social support—are strongly correlated with health outcomes and contribute to overall health more than traditional medical care.[2] Despite their importance to health, SDoH have not been a focus of physicians trained predominantly to intervene on downstream health effects created by a suboptimal biopsychosocial environment. With growing realization about the importance of the social determinants of health (SDoH) on health outcomes, there have been increasing calls for physicians to take a proactive role in asking about and addressing SDoH.[1] The Society for General Internal Medicine (SGIM) and American College of Physicians (ACP) have called on clinicians to adopt a population health perspective in clinical practice *and* incorporate contextual factors responsible for illness into the care of individual patients.[2] Similarly, there have been calls to increase training on the SDoH in medical school and residency education.[3] Elements of SDoH intervention are included in ACGME competencies of medical knowledge, patient care, practice-based learning, and system-based practice.[4] Despite the growing emphasis on SDoH, key components of SDoH are not routinely incorporated into the formal curriculum, and most SDoH education is acquired through informal experiential learning on the wards and in clinic without a framework on which to scaffold learning.

To address the educational need for SDoH training, a group of clinicians and educators developed an educational tool titled "Social Determinants of Health Fast Facts" that published on the *Journal for General Internal Medicine's* online content since 2013.[5] The SDoH Fast Facts are brief, evidence-based summaries of key SDoH topics commonly encountered by clinicians grounded in a clinical scenario. Each SDoH Fast Fact presents a clinical vignette followed by a multiple-choice question on the SDoH. The question is followed by a review of the correct answer as well as 2-3 key evidence-based learning points that provide evidence-based knowledge on SDoH to provoke interest in the evidence in the medical literature pertaining to SDoH and resources available to address SDoH in a clinical setting.

Given that prior studies have shown that clinicians benefit from case-based learning and on-demand continuing medical education, such as training delivered via Internet and e-mail, the University of Pittsburgh Internal Medicine Residency Program developed an SDoH Fast Fact introductory curriculum that followed similar models. The curriculum delivered the SDoH Fast Facts during a 4-week ambulatory rotation to 44 categorical PGY-1 residents using an interactive small group session combined with spaced, electronic learning through emailed SDoH Fast Facts. In the first week, a one-hour small group session, facilitated by a chief resident, introduced the definition and framework of SDoH and coached interns to recognize clinical "triggers" that should prompt them to further inquire about the SDoH. Participants brainstormed ways physicians can intervene on SDoH and were then encouraged to apply this knowledge in their clinical encounters throughout the ambulatory block. Interns were later e-mailed a summary handout

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of the one-hour session and a total of 12 SDoH Fast Facts, delivered in batches of 3-4 facts per e-mail, one e-mail per week. Interns were asked to read the clinical vignette, choose the best answer to the multiple choice question in the electronic platform, and review the take home points associated with each Fast Fact. In the fourth week, interns participated in a 30-minute discussion to reflect on experiences applying lessons learned.

To evaluate the effectiveness of the curriculum in changing interns' attitudes about SDoH, frequency of screening and comfort intervening on SDoH, pre-, immediate post- and delayed post- surveys were conducted and compared to 38 categorical PGY-2 residents who did not receive the curriculum. Of the 44 interns who received the curriculum, 33 (75%) completed the pre- and post-survey, while only 15 (34.1%) completed all three surveys; further, 32 out of 45 (71%) PGY-2 residents in the historical control group completed the survey.

Baseline comparison showed that the intervention group was similar to the historical control group in regard to self-reported attitudes, behaviors, and comfort in addressing SDoH except that the interns agreed more often that physicians should understand *how* SDoH impact health. There were several similarities across groups. Residents reported that SDoH are important to patients' health and it is the responsibility of physicians to identify and address SDoH. They asked patients more often about tobacco, alcohol, and drug use compared to housing, education, and social support. They were also more comfortable addressing chronic disease and health-related behaviors than SDoH such as low educational attainment, housing instability, and lack of transportation. In addition, they reported that faculty did not often prompt them to think about SDoH when precepting in clinic and rarely did they research evidence-based SDoH interventions.

PGY-1 residents who participated in the curriculum were more likely to agree with the statements, "Physicians have a responsibility to ask about SDoH in clinical encounters with patients," and "physicians can improve health by intervening on the SDoH in clinical settings." They also reported that they were more likely to ask patients about social support and reported greater comfort intervening on social isolation after participation in the curriculum. Unfortunately, the curriculum did not improve how often trainees reported asking about other SDoH such as education, employment, and housing. Similarly, there was no change in comfort with intervening on other social determinant of health. All residents reported infrequent teaching on SDoH concepts during precepting encounters in clinic and this did not change over the course of the curricular intervention. Despite having a focus on evidence-based SDoH interventions, the Fast Fact did not improve interns' likelihood of looking up SDoH evidence. Nonetheless, a majority felt that the SDoH Fast Facts were an effective way to teach SDoH and influenced them to ask patients about SDoH that may be affecting their health.

Our curricular intervention served as an introduction to SDoH and sought to peak interns' interest in asking about, intervening on and researching evidence on the social determinants of health impacting their patients through use of the SDoH Fast Facts. The results showed that the curriculum had an impact in changing participants' global attitudes regarding the physician's role in addressing SDoH; but, it had minimal impact in changing behavior with regard to individual SDoH. While there is more work to do in coaching our learners to take an expanded social history beyond the traditional "Tobacco/ETOH/Drug Use" history, there was a sustained impact on asking and addressing social isolation. This was believed to have occurred because the case included in the introductory session focused on social isolation and the Fast Facts also included two cases involving social isolation. Social isolation therefore had a greater focus in our curriculum compared to other SDoH. Given the introductory nature of the curriculum, we were impressed that residents reported a consistent improvement in this domain. In addition to strengthening SDoH education for trainees, the evaluation revealed that faculty development is key especially in prompting trainees to regularly identify SDoH impacting patients, understand the evidence-based interventions, and use community resources available to intervene on SDoH in both ambulatory and inpatient settings.

This evaluation of the SDoH Fast Facts introductory curriculum showed that a brief curricular intervention can increase resident screening for social needs in the clinical setting. However, a ceiling effect was a primary limitation as interns at baseline already thought that addressing SDoH is important, thus our ability to detect improvement in attitudes was restrained.

Despite limitations, we have shown that internal medicine trainees value the teaching of SDoH when small group discussion is paired with spaced-electronic learning in the ambulatory setting with minimal faculty and curricular time. The SDoH Fast Facts are therefore a low-cost and effective tool that can be used by undergraduate or graduate medical education programs looking to begin SDoH education. An important next step to is to link broad-based longitudinal curricular interventions with robust clinical resources so that trainees not only identify and address the breadth of SDoH, but also improve patient outcomes.

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